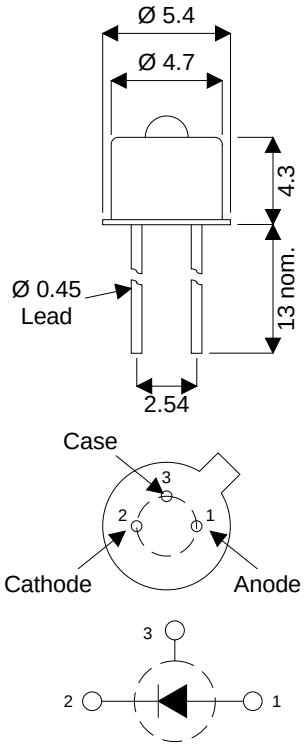
# SMP400G-CE

## MECHANICAL DATA
Dimensions in mm.




**TO-18 Package**

Pin 1 – Anode Pin 2 – Cathode Pin 3 – Case

# P.I.N. PHOTODIODE

## FEATURES

- **LARGE NUMERICAL APERTURE FOR EASE OF COUPLING TO FIBRE OPTIC CABLES**
- **LOW NOISE**
- **WIDE INTRINSIC BANDWIDTH**
- **EXCELLENT LINEARITY**
- **LOW LEAKAGE CURRENT**
- **LOW CAPACITANCE**
- **TO-46 HERMETIC METAL CAN PACKAGE**

## DESCRIPTION

The SMP400G is a Silicon P.I.N. photodiode specifically designed for optical fibre communication. The device is incorporated in a compact, low profile, hermetic metal can package.

A glass bead lens incorporated into the TO-46 case provides an efficient optical design. This affords substantial mis-alignment between the device and a fibre optic cable without degrading the coupling efficiency.

The electrical terminations are via three leads of diameter 0.02" on a pitch of 0.1". Both cathode and anode connections to the photodiode are electrically isolated from the package.

## ABSOLUTE MAXIMUM RATINGS ($T_{case}$ = 25°C unless otherwise stated)

| | |
|---|---|
| Operating temperature range | -40°C to +70°C |
| Storage temperature range | -45°C to +80°C |
| Temperature coefficient of responsively | 0.35% per °C |
| Temperature coefficient of dark current | x2 per 8°C rise |
| Reverse breakdown voltage | 60V |

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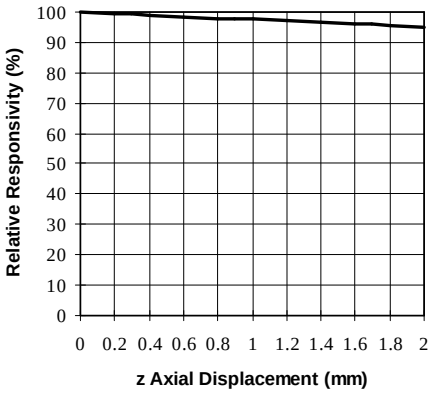
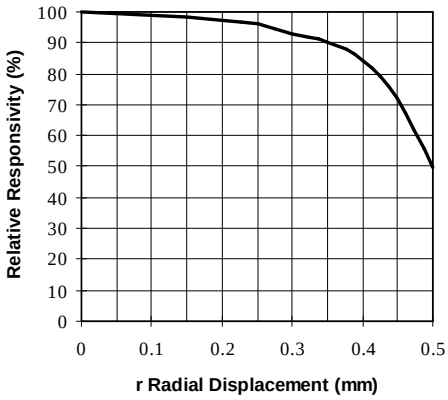
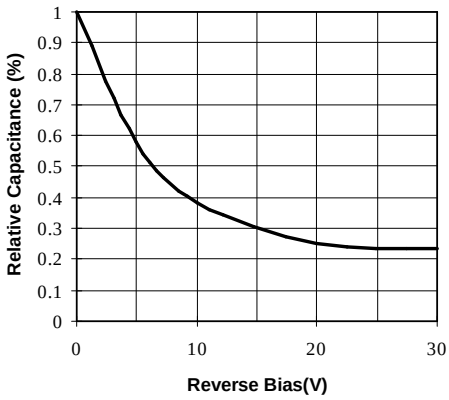
**CHARACTERISTICS** ($T_{amb}$=25°C unless otherwise stated)

| Characteristic | Test Conditions. | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|
| Responsively | λ at 900nm | 0.45 | 0.55 | | A/W |
| Active Area | | | 0.62 | | $mm^2$ |
| Dark Current | E = 0 Dark 1V Reverse | | 0.1 | 1.0 | nA |
| | E = 0 Dark 10V Reverse | | 0.5 | 2.5 | |
| Breakdown Voltage | E = 0 Dark 10µA Reverse | 60 | 80 | | V |
| Capacitance | E = 0 Dark 0V Reverse | | 8 | 12 | pF |
| | E = 0 Dark 20V Reverse | | 1.5 | 2.5 | |
| Rise Time | 30V Reverse 50Ω | | 4 | | ns |
| NEP | 900nm | | 7.2 | 0.45 | W/√Hz |




**Spectral Response**